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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,109	06/29/2006	Henk Mosseveld	WAS0726PUSA	4337

22045 7590 07/23/2009

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EXAMINER	
REDDY, KARUNA P	
ART UNIT	PAPER NUMBER
1796	
MAIL DATE	DELIVERY MODE
07/23/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/551,109	MOSSEVELD ET AL.	
	Examiner	Art Unit	
	KARUNA P. REDDY	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 May 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *20-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *20-39* is/are rejected.

7)☒ Claim(s) *23,27,31 and 36* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to the amendment filed 5/26/2009. Claims 1-19 are cancelled; claims 21-36 are amended; and claim 39 is added. Accordingly, claims 20-39 are currently pending in the application.

   This action is made final in light of the amendments to claims which were not presented previously.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Objections

3. Claims 23, 27, 31 and 36 are objected to because of the following informalities:

   Claim 23 (line 6) recites “alkyl esters methylolacrylamide” and should read “alkyl esters of methylolacrylamide”.

   Claim 27 (lines 7-8) recites “selected from the group consisting of .... styrene/maleic acid copolymers, and vinyl ether/maleic acid copolymers, starch and dextrins”. Proper Markush grouping is listed as “selected from the group consisting of A, B, C and D”. Alternatively it can be listed as “selected from A, B, C or D” - see MPEP 2173.05(h). Accordingly, applicant is advised to rephrase it as “selected from the group consisting of .... styrene/maleic acid copolymers, vinyl ether/maleic acid copolymers, starch and dextrins” while including other Markush elements recited in claim 27 in place of ".....".

Claim 31 (line 1) recites “A starch molding of claim 20”. Given that claim 20 is directed to a composition, applicant is advised to rephrase it as " A starch molding from the composition of claim 20”.

Claim 36 (lines 1-4) recites “A process for producing a starch molding composition of claim 20, comprising: ..... and molding at a temperature of from 70^0C to 150^0C." Given that the final product appears to be a molded article, applicant is advised to rephrase it as " A process for producing a starch molding from the starch molding composition of claim 20, comprising: ..... and molding at a temperature of from 70^0C to 150^0C." while including missing text from claim in “….” portion.

Appropriate clarification and/or correction are required.

Claim Rejections - 35 USC § 102

4. Claims 20, 22-23, 26-27, 29-30 and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Wendel et al (US 5,358,998).

Wendel et al disclose aqueous polymer dispersions containing polymer obtained by free radical polymerization and sugared starch (abstract). See table 7 wherein the monomer composition comprises 5 wt% of N-methylol methacrylamide and other monomers such as styrene and butyl acrylate. See examples in Table 7 wherein the % by weight of starch is 40 and the amount of binder is 3 which reads on the wt% of polymer i.e. 7.5% by weight for 100 % by weight of starch. The polymer dispersions are readily stabilized with degradable starches (column 2, lines 40-45) and read on protective colloid of claim 27. Preferred class of aqueous dispersions are those whose free-radical polymerization of monomer mixture comprises from 50 to 100% by weight of

esters of acrylic acid and/or methacrylic acid with alkanols having 1 to 12 carbon atoms and/or styrene or from 70 to 100% by weight of vinyl chloride and/or vinylidene chloride (column 5, lines 56-67). Sugared starches are present in amounts of from 1 to 120% by weight, based on amount of polymerized monomers (column 6, lines 12-18), preferably from 10 to 65% by weight based on polymerized monomers (column 9, lines 25-27). Suitable secondary emulsifiers are the protective colloids and emulsifiers otherwise usually employed as dispersants. Secondary surfactants are generally used in amounts of up to 5% by weight (column 6, lines 51-53). The aqueous dispersions are particularly suitable as binders and adhesives (column 8, lines 27-29) and for the production of moldings (column 11, lines 13-15). A notable property of the aqueous dispersions is that they can be converted, in a known manner, to redispersible polymer powders (col. 8, lines 46-49).

Therefore, Wendel et al anticipate the present claims.

Claim Rejections - 35 USC § 103

5. Claims 20-21, 24-25, 27, 29, 31, 34-37 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ritter et al (US 5,439,953) in view of Wendel et al (US 5, 358, 998).

Ritter et al disclose in examples 1-4 molding made by mixing components of the composition comprising polyvinyl acetate homo- or co-polymer dispersion comprising either polyvinyl alcohol or starch ether as protective colloid; potato starch and water. Extrusion temperatures in examples 1-4 fall within the claimed range of from 70^0C to 150^0C. It is noted that polyvinyl acetate has a T_g of 30^0C and falls within the range of -

30^0C to +120^0C recited in claim 25. The invention of Ritter et al disclose mixing thermoplasticized starch with thermoplastic polymers of synthetic origin to produce a modified polymer mixed product which ensures biodegradability of the materials and of molded articles thereof (column 2, lines 53-62) and read on the rottable molding of present claims 34-35. Conventional processing methods such as injection molding, extrusion molding, extrusion blowing and film blowing are employed (column 11, lines 7-10). See example 1, wherein poly(vinyl acetate) is present in amount of 16.2% by weight and potato starch in amount of 40.0% by weight.

Ritter et al is silent with respect to functional monomer and polymer in the form of redispersible powder.

However, Wendel et al teach that aqueous polymer dispersions containing polymers and sugared starch (abstract) can be used as a binder (col. 8, lines 27-30) and in the production of moldings (col. 11, lines 13-15). Monomers which usually increase the internal strength are generally copolymerized in small amounts of from 0.5 to 10% by weight and include preferably N-methylolmethacrylamide (col. 5, lines 20-33). Notable property of the aqueous polymer dispersions is that they can be converted to redispersible polymer powders by known methods (col. 8, lines 46-49). Therefore, in light of the teachings in Wendel et al, it would have been obvious to one skilled in art at the time invention was made to use small amounts of from 0.5 to 10% by weight of N-methylol methacrylamide in the preparation of the polymer, of Ritter et al, stabilized by protective colloid for realizing increased internal strength, and convert the thus obtained aqueous polymer dispersion to redispersible polymer powder in a manner known to one skilled in art for ease of handling, storage and transportation.

6. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ritter et al (US 5,439,953) in view of Wendel et al (US 5, 358, 998), as applied to claim 31 above, in view of Miyamoto et al (JP 2002-020601).

The discussion with respect to Ritter et al in view of Wendel et al in paragraph 5 above is incorporated here by reference.

Ritter et al and Wendel et al are silent with respect to biodegradable polyester.

However, Miyamoto et al teach biodegradable polyester resin composition that can degrade at a desired rate without lowering strengths of resin and is used as an adhesive (abstract). Therefore, in light of the teachings in Miyamoto et al, it would have been obvious to one skilled in the art at the time invention was made to add biodegradable polyester resin to the molding composition / molding of Ritter et al in view of Wendel et al because Miyamoto et al teach that biodegradable polyester resin can degrade at a desirable rate without lowering strength and one of ordinary skill in the art would expect such an addition to the composition, of Ritter in view of Wendel et al, to provide the benefit of degradation of binder at a desirable rate. Furthermore, case law holds that the selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination in Sinclair & Carroll Co. v. Interchemical Corp., 325 U.S. 327, 65 USPQ 297 (1945).

7. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ritter et al (US 5,439,953) in view of Wendel et al (US 5, 358, 998), as applied to claim 27 above, and further in view of Famili et al (5,362,778).

The discussion with respect to Ritter et al in view of Wendel et al in paragraph 5 above is incorporated here by reference.

Ritter et al and Wendel et al are silent with respect to the properties of polyvinyl alcohol.

However, Famili et al teach extrudable PVOH compositions comprising modified starch. The product has improved modulus, reduced elongation and high relative humidity (abstract). Suitable PVOH is 75-99 mol% hydrolyzed and has solution viscosities of 3 to 55 cps at 20^0C as a 4% aqueous solution (column 3, lines 4-10). Therefore, in light of the teachings in Famili et al, it would have been obvious to one skilled in the art at the time invention was made to use polyvinyl alcohol, having the recited degree of hydrolysis of 85 to 94 mol%, and a viscosity of 3 to 15 mPa.s, as protective colloid, in the polymer dispersion of Ritter et al in view of Wendel et al, for above mentioned advantages.

8. Claims 33 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ritter et al (US 5,439,953) in view of Wendel et al (US 5, 358, 998), as applied to claim 31 above, and further in view of Hashemzadeh et al (US 2002/0135086 A1).

The discussion with respect to Ritter et al in view of Wendel et al in paragraph 5 above is incorporated here by reference. Furthermore, Wendel et al teach that polymer dispersions can be used as binders for finely divided mineral and/or organic materials, in the production of moldings such as chip boards (col. 8, lines 27-33).

Ritter et al and Wendel et al are silent with respect to cellulose in the form of wood particles, wood fibers, wood meal or mixtures thereof.

However, Hashemzadeh et al teach binder composition comprising substantially similar polymer dispersions as that of Ritter et al and Wendel et al. The binder is used for forming articles from particulate materials such as mineral, fiber or natural materials

which include wood shavings, wood, cellulose and others (paragraph 0028). Therefore, it would have been obvious to one skilled in art at the time invention was made to add wood shavings, wood or cellulose, of Hashemzadeh et al, to the composition of Ritter et al in view of Wendel et al prior to molding because Ritter et al in view of Wendel et al contemplate using the polymer dispersion as a binder in forming moldings from finely divided mineral and/or organic material and Hashemzadeh has shown successfully that substantially similar binders can be used for forming articles made from wood shavings, cellulose, wood and one of ordinary skill in the art would expect such a combination to work, motivated by expectation of success.

Response to Arguments

9. Applicant's arguments, filed 5/26/2009, with respect to objection of claims 20-24 and 27-28; and rejection of claims 20-23 and 32 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, have been fully considered and are persuasive. The objection of claims 20-24 and 27-28; and rejection of claims 20-23 and 32 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention has been withdrawn.

10. Applicant's arguments with respect to rejection of claims 20-21, 24-25, 27, 29, 31 and 34-37 under 35 U.S.C. 102(b) as being anticipated by Ritter et al (US 5,439,953); claims 20, 22-23, 26-27, 29-30 under 35 U.S.C. 102(b) as being anticipated by Wendel et al

(US 5,358,998); claims 20-21, 24-27, 29-31, 33 and 36-38 under 35 U.S.C. 102(b) as being anticipated by Hashemzadeh et al (US 2002/0135086 A1); claim 28 under 35 U.S.C. 103(a) as being unpatentable over Ritter et al (US 5,439,953) in view of Famili et al (5,362,778); and claim 32 under 35 U.S.C. 103(a) as being unpatentable over Hashemzadeh et al (US 2002/0135086 A1) in view of Miyamoto et al (JP 2002-020601), have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KARUNA P. REDDY whose telephone number is (571)272-6566. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K. P. R./
Examiner, Art Unit 1796

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796